

REMARKS

Applicants request favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

Claims 1-11 are presented for consideration. Claim 1 is the sole independent claim. Claim 1 has been amended to clarify features of the subject invention. Support for these changes can be found in the original application, as filed. Therefore, no new matter has been added.

Applicants request reconsideration and withdrawal of the rejections set forth in the above-noted Office Action.

Claims 1-4, 6, 7 and 11 were reject under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 4,922,290 to Yoshitake et al. in view of the published European patent application number 0 820 132 to Ohmi et al. Claim 5 was rejected under 35 U.S.C. § 103 as being unpatentable over that art combination and further in view of U.S. Patent No. 5,920,398 to Iwanaga et al. Claims 8-10 were rejected under 35 U.S.C. § 103 as being unpatentable over the original art combination and further in view of U.S. Patent No. 5,170,207 to Tezuka et al. Applicants submit that the cited art, whether taken individually or in combination, does not teach many features of the present invention, as previously recited in claims 1-11. Therefore, these rejections are respectfully traversed. Nevertheless, Applicants submit that independent claim 1, as presented, amplifies the distinctions between the present invention and the cited art.

Independent claim 1 recites a projection exposure apparatus that includes an illumination optical system for illuminating a pattern of a reticle with laser light from a continuous emission excimer laser, a projection optical system for projecting the illuminated pattern onto a substrate,

adjusting means for adjusting an optical characteristic of the projection optical system in accordance with a change in wavelength of the laser, and wavelength stabilizing means. The wavelength stabilizing means stabilizes the wavelength of the laser light when the adjustment of the optical characteristic of the projection optical system by the adjusting means is insufficient. The wavelength stabilizing means includes a piezoelectric device, wherein the wavelength of the laser light is adjusted by driving the piezoelectric device.

Applicants submit that the cited art does not teach or suggest such features of the present invention as recited in independent claim 1.

The Yoshitake et al. patent shows a projection exposure apparatus that includes an illumination optical system (excimer laser 1) for illuminating a pattern of a reticle with laser light, a projection optical system for projecting the illuminated pattern onto a substrate and an adjusting device for adjusting an optical characteristic of the projection optical system.

Applicants submit, however, that the Yoshitake et al. patent does not teach or suggest at least the arrangement of the adjusting means and the wavelength stabilizing means of the present invention recited in independent claim 1.

Applicants further submit that the remaining art does not cure the deficiencies noted above with respect to the Yoshitake et al. patent.

Specifically, Applicants submit that the Ohmi et al. document does not teach or suggest adjusting a wavelength of laser light by driving a piezoelectric device in the manner of the present invention recited in independent claim 1. The Examiner takes the position that the wavelength selection unit 106 in the Ohmi et al. document corresponds to the wavelength

stabilizing means of the present invention. Applicants note that the wavelength selection unit 106 in the Ohmi et al. document includes a magnifying prism 106-1 and a diffraction grating 106-2, as is discussed in that document on page 15 at lines 26-28. Applicants submit, however, that the wavelength selection unit of the Ohmi et al. document does not include a piezoelectric device, in which the wavelength of the laser light is adjusted by driving the piezoelectric device, in the manner of the present invention recited in independent claim 1.

The Examiner relies on the Iwanaga et al. patent for teaching a reticle stage and a wafer stage capable of relative scanning motion. The Examiner relies on the Tezuka et al. patent for teaching a projection optical system that includes a lens system made up of more than ten lens elements, in which the lens elements are made of particular materials. Applicants submit, however, that the Iwanaga et al. patent and the Tezuka et al. patent, as with the Ohmi et al. publication, do not teach or suggest at least the features of the wavelength stabilizing means of the present invention recited in independent claim 1, which includes a piezoelectric device, in which the wavelength of the laser light is adjusted by driving the piezoelectric device.

For the reasons noted above, Applicants submit that the Ohmi et al. document, the Iwanaga et al. patent, and the Tezuka et al. patent add nothing to the teachings of the Yoshitake et al. patent that would render obvious Applicants' present invention as recited in independent claim 1.

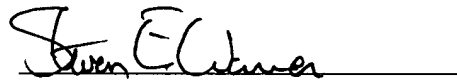
For the foregoing reasons, Applicants submit that the present invention, as recited in independent claim 1, is patentably defined over the cited art.

Dependent claims 2-11 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in independent claim 1. Further individual consideration of these dependent claims is requested.

Applicants further submit that the instant application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-noted Office Action and an early Notice of Allowance are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,



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